

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 July 2006 (27.07.2006)

PCT

(10) International Publication Number
WO 2006/078347 A2

(51) International Patent Classification:
H01Q 9/16 (2006.01)

(74) Agents: **DALEY-WATSON, Christopher, J.** et al.;
PERKINS COIE LLP, P.O. Box 1247, Seattle, Washington
98111-1247 (US).

(21) International Application Number:
PCT/US2005/041981

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:
21 November 2005 (21.11.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/629,688 19 November 2004 (19.11.2004) US

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): **DOT-CAST, INC.** [US/US]; 20425 72nd Ave S, Suite 200, Kent, Washington 98032 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **ROWSER, Andrew** [US/US]; 20425 72nd Ave S, Suite 200, Kent, Washington 98032 (US). **LONG, Christopher** [US/US]; 23326 Se 199th Street, Maple Valley, Washington 98038 (US). **BORLAND, Glenn** [US/US]; 20425 72nd Ave S, Suite 200, Kent, Washington 98032 (US). **HOARTY, W., Leo** [US/US]; 3465 Oak Hill Court, Morgan Hill, California 95037 (US).

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A DIRECTIVE, BROADBAND, HIGH GAIN, ACTIVE ANTENNA SYSTEM

(57) Abstract: A broadband, high-gain, active antenna system is disclosed, which operates with a bi-directive reception pattern while in its standard configuration and with a directive reception pattern over several octaves of Radio Frequency (RF) spectrum when affixed with a tuned scatter-plate. As a standalone active antenna system the disclosed antenna probe element and the amplifier subassembly exhibit the bi-directional directive properties of a standard fixed length dipole, while the addition of a scatter-plate makes the antenna directive with separate frequency-dependant directive modes. The scatter-plate can be tuned such that these separate directive modes occur at convenient areas of the RF frequency spectrum. Other means of achieving directivity are disclosed using the antenna probe element and the amplifier subassembly.



WO 2006/078347 A2